Program, diagram and experience.
An inquiry on OMA's architectural images

Colonnese, Fabio [1]   Carpiceci, Marco [1]

Abstract   This paper proposes a classification of OMA's envisioning models as a contribute to a deeper comprehension of relationships between representation, communication and the actual building. In the past decades Rem Koolhaas has played a central role in producing innovative models for the architectural communication. His interest in urban dynamics and popular mass-media had a fructuous consequence in innovating analytical and synthetic representations that, thanks to the ever-changing design team and an uncommon (self-)critical aptitude, have been both re-interpreted and hybridized by features borrowed from visual arts and other extra-architectural sources. Inspired by a central consideration of a moving person's experienced space, Koolhaas and his collaborators have programmatically deformed and retouched the canonical orthographical and perspectival views to achieve a number of communicative goals such as an intrinsic congruence with the architectural concept, a transmission of attached meanings and a diffuse fictional atmosphere.

Fig. 1 OMA, Villa dall'Ava, Paris, 1984-91. Anti-perspective and axonometric views
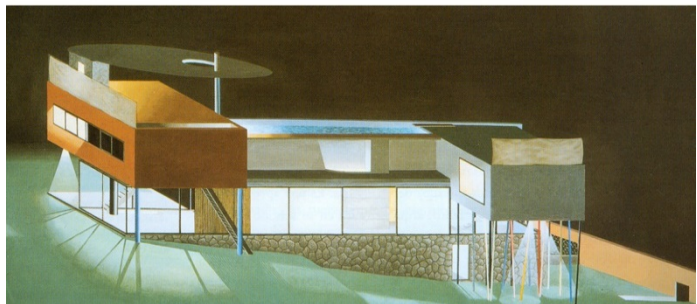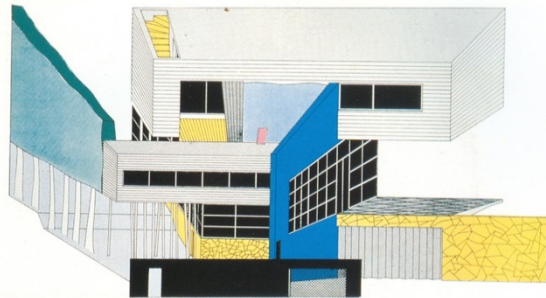
1. Dept. of History, Drawing and Restoration of Architecture, Sapienza University, Rome, Italy

An impressive visual production is one of the main contributions of Koolhaas and OMA to cultural and artistic debate on architecture and city in the late twentieth and early twenty-first century. Scholars have generally neglected to analyse OMA's graphical products, yet no one could dispute their extraordinary quality and centrality in an overall communication strategy that is constantly trying to establish a deep connection with the specific architectural program. This study, although leaving apart some topics such as urban representation and original use of physical models, embraces a quarter of a century, from 1981 to 2006, from the first project in OMA website to the publication of AMO's *Domus d'Autore*. Magazines have been our main field of study, along with books by and about OMA and the numerous interviews with its prolific leader. In addition to these we took in account some material published on OMA's official website and OMAR, the monograph archive at Netherlands Architecture Institute in Rotterdam.

Koolhaas is not a famous sketcher like Holl or Siza. Indeed, despite the amount of graphic material, it is even difficult to attribute him with certainty the authorship of this or that drawing. "His signature is difficult to detect because others have outlined his ideas" (Vlassenrood, 2004). The circulating images seem suitably selected for an anti-conformist communication by Koolhaas's efficient "press agency". It is an impressive body of images that shows a variety of methods, styles, forms of expression: changing from year to year, even from project to project, their function is to establish a critical approach to project by hybridization of historical envisioning models with the new media's visual products.

The architecture of Koolhaas

Rem Koolhaas decided late to dedicate himself to architectural design. As an early component of a team of experimental film-makers, writing has always been his main interest and his main approach to places and projects. By Koolhaas's admission, since the beginnings a sort of modesty and an ethical and social detachment from purely formal issues has been present inside OMA. Elementary solids like parallelepipeds, spheres and ovoid embody most of projects. The informal cube is the universal container for his research on the half-determined spaces aiming to limit individual freedom as little as possible. The formula is to dose up together a maximum of program and a minimum of architecture: "where there is nothing, anything is possible. Where there is architecture, nothing else is possible" (Lucan, 1991). Koolhaas prefers to devote himself to enrich relationships and to develop a program of which freedom is the main subject: freedom from constraints, structures, models, ideologies, orders and genealogies, to report the list dripped by Zaera Polo (1992b). Such a freedom is a direct expression of the enlightened democracy that permeates Dutch (and Northern Europe) society, the "open" structures of Van Eyck and Hertzberger and as well as Wim Wenders' frames of Berlin, whose urban quality appears "also directly proportional to its lack of planning" (Colusso, 1998).

Over the years, Koolhaas has proved to be able to attract partners and associates who regularly provides him with an innovative design and communication language, according to a strategy of "collaboration" (Zaera Polo, 1992b) adopted as a powerful antidote against the architect's typical instinct to withdraw into himself. Since Zenghelis left OMA in 1985, Koolhaas has been involving young talented people such as the engineer Cecil Balmond, the landscape architect Yves Brunier, architects Sauerbruch and Hutton, Kees Christiaanse, Xavieer De Geyter, Willem Neutelings and the future MVRDV.

Koolhaas used all OMA's resources to free themselves from fixed positions, vertical accesses, facades and crystallized distinction between inside and outside, by exploring the *bigness* as a threshold which affects the quality of architecture and forces a rethinking of the traditional design and envisioning parameters. Schizophrenia he identified between the impassive exterior volume and the indifferent schismatic interiors of New York's skyscrapers, not only guides most of his designs but also accompanies his own existence. He seems constantly torn between analysis and synthesis, between registering and classifying urban dynamics and proposing their syntheses in OMA's projects. He always declared himself fascinated by Surrealists' paranoid method, a

rational method which does not pretend to be objective, through which analysis becomes identical to creation. "I have a deep, almost compulsive, need pushing me to register", said Koolhaas. "But it does not end there because that record turns into something creative. There is a continuity. Record is the beginning of the production concept. Somehow I concentrate recording and producing in a single step" (Kwinter & Rainò, 2002).

Visual communication and artwork

The first part of OMA's life is marked by utopian projects, both because of the economic downturn and the lack of real commissions. The graphical models for communication were inspired by late sixties and early seventies' radical groups works as Metabolists and Superstudio. *Exodus, or The Voluntary Prisoners of Architecture* showed all the heretic repertoire of photo-collages made of cut-out pictures glued on drawings, as inspired by Archigram and its founder Peter Cook, also teacher at Architectural Association School.

The presentation of OMA's earliest period projects was generally entrusted to the joint work of Zoe Zenghelis and Koolhaas' wife Madelon Vriesendorp. Their wide isometrics and bird's-eye views, often obtained by re-drawing the study-models, were regularly coloured with combined watercolours, gouache and coloured chalks as a factor of contextualization or estrangement.

Elia Zenghelis claimed that their early architectural representations were "*partly descriptive and partly didactic in nature*" (Maxwell and OMA, 1981). The drawing technique was thought in order to convey every intention in great detail without reducing project's sense of reality. Zenghelis thought this presentation method was necessary to communicate the content of the project and to avoid purely abstract discussions of architecture; but unfortunately those drawings were mainly accosted to paper-architecture phenomenon and often interpreted as autonomous artistic expressions (Maxwell & OMA, 1981). However, when in the 1970s and 1980s the status of architectural drawings rose steadily, early Koolhaas and OMA's artwork began to be treated as works of art and to be acquired by private collectors and public institutions. More than once artwork for an existing project was re-made to order as the sale of their drawings and models provided an important source of income that partially prevented company's bankrupt for lack of real commissions. But even when the architectural drawings tend to (surrealist) realism, Koolhaas' primary interest is in layout envisioning models for a correct concepts transmission.

The portfolio of Villa Dall'Ava offers a paradigmatic example of the visual communication practice in the years of transition from the original OMA group to the current open configuration. During the long gestation of the project, "*the novelist in Koolhaas*" had enough time to develop a fictive communicative strategy, in order "*to grasp the reality that surrounds him, to interpret it and cope with it*" (Patteeuw, 2003). A coloured cardboard model and two Vriesendorp's painted frontal axonometric views, from above and below, show a sort of planits-like spaceship about to land down, establishing also a connection with Siedlung-like housing as painted by Reinhald Naegele in *Werkbundsiedlung* (1927). Both drawings and photographs show the narrative and critical action that Koolhaas exercises on his own work. Bruno Pedretti (1992) confessed that primarily *Casabella* editorial staff rumoured that Villa Dall'Ava did not actually exist, that it was only a full-scale model: a marketing operation, perhaps a reflection on the surrealist unstable boundaries between real and virtual. Indeed "*the whole building recalls children's drawings, the dreams of Little Nemo and, above all, the scenarios of certain Spirou's comics*" (Chaslin, 2003). Its empirical composition of volumes and masses and the precarious and rough assemblage of external and internal surfaces fuelled a general feeling of a temporary mock-up or a scenery arranged for a photographic session. The pictures of the villa are neither trivial, nor obvious: they are not expected to record space and light but to tell a story, to show a place where events happen and, indirectly, to convey a social message. Hans Peter Werlermann's pictures show a giraffe walking in the garden and OMA collaborators in swimsuit and bathing cap doing exercises on the edge of the pool on the roof. They appear as a perfect translation of OMA's early weird watercolours, suspended between the avant-garde magazines' covers and the irony of Jacques

Tati's movies (openly honoured with the sinusoidal path through the coloured oblique tubular pillars).

Beginning in the late 80s, the computer was first introduced in OMA as a mere calculator, then for orthographic drafting and, lately, for three-dimensional modelling. When yet unable to print the monitor model views, young collaborators had to spend hours of manual work to replicate their vivid colours by cutting and pasting self-adhesive masking films on the printed black-and-white wire-frame view, as the Rotterdam Museum of Architecture's perspectives.

In the late 80s, while the spreading of CAD software was radically modifying the design practice, a multiplicity of authors alternated in presenting projects. The numerous participations to contests have a basic role in elaborating and perfecting a communicative strategy to capture and transmit the essence of a design in a single image. Ron Steiner's triptych of the Meuse Towers project is symptomatic of OMA's disposition to synthetic panels that registers and envision process and product together: plans, isometrics with reflections on water, schemes of visual fields, kinetic views at high speed and other minute amenities produce a hard-to-decipher visual palimpsest that somehow *is* a project itself.

In the same years Koolhaas' collages on orthographies became an halfway between a drawing and a model as traditional coloured papers coexist with photocopies, metal surfaces, polystyrene and polycarbonate. Their heterogeneous nature perfectly embodies the philosophy of multi-layered and assemblage-designed projects such as the Kunsthal or the Cardiff Opera. This manual technique persisted even in years in which the use of software such as Adobe Photoshop could make digital collages possible and easier to produce (but obviously lacking the same tactile qualities). Only from the mid-90s computer is being used as the synthesis tool able to assemble in a single product the heterogeneous elements of the project, further developing the process of hybridization between visual and artistic techniques. In the competition for the New Tate in London (1994), the power of Photoshop is used to insert wooden model zenith pictures directly in the project drawings while other elements are digitally added: header, text, CAD-drafted profiles, photo excerpts of external horizontal surfaces and, finally, orange arrows and captions to indicate pathways and functions of the rooms.

Editorial diagrams

At the end of the nineties Koolhaas created AMO, a mirror office to expressly inquiry the world of media and the virtual domain, focusing on the client's organization and identity. AMO is the exclusive point-of-view from which to record, describe and represent the work of OMA and himself, like through a mirror. In the same years, thanks to the work of designers such as Irma Boom and Bruce Mau, OMA communication layout got closer and closer to Koolhaas' books look by electing the diagram as a privileged device to analyse and express the architectural phenomena.

Since the Park of Villette project (1982), Koolhaas has been drawing simplified plans and volumetric schemes to clarify design genetic, distribution or constructive solutions. By a systematic hybridization of habitual representations with text, symbols and patterns from other disciplines, he intended to communicate projects numbers and ratios through the same visual language of an atlas or a financial newspaper. "Exquisitely designed diagrams and graphs" (Patteeuw, 2003) and other forms of statistical analysis were used to explore the shapeless factors that influence society today as well as to represent the quantitative aspects of OMA's projects, metaphorically emphasizing their character of a scientifically tested solution.

In AMO's Domus d'Autore *Post-Occupancy*, Koolhaas selected four of his recently finished buildings to represent their state after their occupation, "in a fresh, more complex way. We do not insist on the buildings' qualities but monitored their effects on their respective hosts and users. We (...) looked through the eyes of tourists and artists, trusted others to record (...) to see what happens in the absence of the author" (Koolhaas & AMO, 2006).

The drawing contribution to the magazine (Cad scan) is confined to an unreadable overlapping of CAD layers. Each building is rather introduced through parameters of classification and categories of analysis: location (zenith picture and address), date (short press of world events on the same day of the inauguration) contest (design-influencing), and visual language users; then they are compared each other by timeline (linear diagram with other influential facts), scale (size compared to a plane), programme (m^2) and equivalences (building cost compared with value of cocaine, caviar, gold and so on). We find also Feldman's pictures of employees at work, pictures and comments from visitors taken from Internet and architecture blogs, surveillance cameras frames, pictures from newspapers articles and television services, a conversation between French artists, a comment by Hubert Damisch. Chicago IIT building is illustrated by both photographic sections and especially annular photographs according to the principle of the cylindrical anamorphic perspectives: they reveal a 360° cylindrical panorama by simply putting the chrome sheet (purposely attached to the magazine) at the centre of the photograph. And all this amount of images leaves the reader a weird feeling that a secret story is told through them and he has been an *involuntary prisoner*/co-author of it.

'A dirty dozen'

The following arbitrary and incomplete taxonomy of OMA's drawings typologies and techniques can give an idea of Koolhaas' communicative strategy. Twelve examples have been organized according to Vitruvius' *lineamenta*, formed by *icnographia* (plan), *orthographia* (elevation) and *sciographia* (section and/or perspective), in order to express both the historical roots of representations and their degree of customization exercised by Koolhaas.

a. Icnographia.

1. Isometric plan. Alex Wall's coloured plan for Parc de la Villette in Paris (1982) seems to oscillate ambiguously between a plan and an elevation of a modernist tower. It presents some elements in elevation as in certain Egyptian plans or Roman mosaics with corner towers developed on the plane. A precedent can be found in the frontal oblique isometric drawn for villa Spear in Miami (1975), perhaps the first attempt to lay on the horizontal plane the schizophrenia found in the vertical sections of New York skyscrapers.

2. Map-like plan. The rhizomatic project for Melun-Sénart is represented by "lines of movement, bits of different creations, figures indicating densities, figures which represent activities, logotypes of companies" (Zaera Polo, 1992a) and so on. Other unusual cartographic suggestions can be found also in the Agadir Center, whose artificial concrete dunes are drawn with contour-lines and the Jussieu Libraries, whose plans exhibit occasional excerpts from Piranesi's *Campo Marzio* and from topographic map.

3. Panoramic plan. Villa Floirac's *floating box* plan is conceived and drawn as an observatory. The interior is filled with narrow optical cones pointing towards the surrounding countryside and producing three rows of holes on the fronts at different height. The exterior is surrounded by a sort of circular panoramic profile of the surrounding environment according to the central bird's-eye perspective that can be seen in Niklas Meldemann's circular view of Vienna from the time of the First Turkish Siege.

4. *Poché* plan. The layout of The Hague center around the New Town Hall is drafted with the same *Poché* criteria used by Giovan Battista Nolli in the *Grande Roma* printed in 1748 (Gargiani, 2008). This graphical expedient is useful to express both the spatial continuity of the ground floor urban spaces and the spatial hierarchies as perceived by a walking subject.

b. Orthographia.

1. Revolving model. The Hague's new City Hall model is revolted to give rise to a set of orthographies that are sketched and then coloured and shaded with crayons and chalk. A perspectival and digital variation of this strategy can be seen in MVRDV's drawings for a residential block for 1991 Europan and again in OMA's studies for the Meuse towers.

2. Tomography. French National Library's cube seems a result of a speculation on the qualities of an ideal isotropic, homogeneous and continuous space: it shows no trace of the force of gravity, like the black background of AUTOCAD. Plans, sections and elevations appear as indifferent to the sliding axis as a square tomographic series and are disposed on the knots of a grid, as insects pinned on a board.

c. Sciographia.

1.   *Poché* section. In Agadir project simplified sections in black and white are used to show in a sequence the progressive variation of the in-between space defined by simultaneous undulation of ground and intrados of the upper plate. As in the *poché*-plan case, they are later used to express hidden hierarchies as serving and served spaces or genetically primary and secondary forms.

2.   Negative models. In the *Tres Grand Bibliotheque* model Koolhaas eliminates cubic volume and plans for libraries to evidence as a negative all the cavities for the collective functions, while in the Berlin Embassy a transparent plastic cube is used to manifest the interior ascending promenade as the hidden spatial matrix. These models obviously quote Luigi Moretti's (1953) plaster negative models used to analyse the spatial dynamics in the historical buildings.

3.   Sketches and cartoons. Sketches are commonly used as a complement to project presentations (Colonnese, 2007): they're drawn with coloured pencils on coloured cardboard, like outside and entrance hall views of The Hague's Town Hall, or on dark photocopies, like for Melun-Senart district. Pen-drawn comics-like sketches appear later to illustrate the offices designed in Frankfurt, the Zeebrugge Sea Terminal and the Agadir complex; but only for Eurolille they become the main visual device for the communication in order to allow "*a barrage of speculation and, secondly, to ensure certain communication requisites, in particular the political ones*" (Chaslin, 2003): the "Piranesian space" makes a show of the infrastructural complexity through perspectival derogations, transparency effects and a general relationship with the comics graphic techniques.

4.   Compressed section. For the Jussieu Libraries and The Hague underground galleries, Koolhaas stretches vertical sections at 500% to emphasize slopes and anticipate the direct experience of space. Although these graphics are commonly used by geologists, the suggestion might have come from a deformed silhouette of a Tour de France's mountain stage.

5.   Multi-perspective section. Occasional sections with polycentric perspectives inside can be found in the project for the new Tate and affiliate Xavier De Geyter's design for Antwerp River Museum.

6.   Developed surfaces. Rotterdam Kunsthal is represented in form of developed elevations by cutting the building according to human motion along the routes: numbers and arrows are added to allow the connection of six parts like in a board game. Utrecht Educatorium is instead represented by developing floors and ceilings surfaces on a common plane, with curved arrows indicating the necessary folding to obtain the final three-dimensional model. Jussieu Libraries' facades are developed as a long continuous ribbon while Berlin Embassy is represented in form of developed plan and section by folding the section plan along the interior ascending *promenade architecturale* to anticipate the spatial effects on visitors.

Conclusions

It is difficult to classify and evaluate such an amount of different and contradictory envisioning strategies and models. Surely they demonstrate not only an extraordinary curiosity toward the historical roots of architectural representation but even an urgency to deform it in order to take in consideration the economic and technological forces that actually shape the world and to focus on human experience as a key of regeneration of architectural image. We could highlight Koolhaas' interest in representing the process together with the product but this attitude is common to many other contemporary designers. Moreover an entire generation of European architects seem to have assumed not only his same "mental freedom" from the architectural form oppression but also a number of his envisioning models for communications. At the same time, it

is hard to find someone with a similar critical aptitude toward his own projects as he seems able to put a remarkable distance between himself and his own projects.

The selection above well demonstrates Koolhaas' disposition to elaborate innovative visual metamorphosis for communicating his projects. Like Ovid's heroes/victims, OMA's mutant architectural images show both their original essence and their innovative qualities. They seem the result of a systematic four stage process: a selection/simplification, in which parts of project are erased or "switched off" to highlight primary elements and relationships; a deformation/alteration, in which physical and perceptual properties are altered to include the effect of a moving man; an assemblage/collage in which mutual position gives them a hierarchy meaning; a mass-media contamination, in which the quality of signs, lines, textures and colours is chosen to recall something else and convey extra-architectural meanings. Study-model pictures and elegant diagrams usually accompany those drawings in order to reduce their apparent complexity, add tactile three-dimensional suggestions as well as analogical and analytical keys to evaluate the projects qualities.

Through metamorphosis and assemblage procedures, habitual representations are transformed into innovative devices that operate on a double level: they mainly provide geometrical and functional information but also convey secondary (reassuring) meanings by alluding to fields and objects such as Economics, Politics, Medicine, Science but also comics, toys, optic games, sport, advertisement, cinema; and such a suggestion plays the role of customizing a representation according to the single project spirit and genetic code and to concentrate everything in a single synthetic image.

A general tendency from a synthetic art-work made of overlapped drawings and *maquette* pictures to an analytical sequence of heterogeneous hybrid representations can be tracked project after project, during the period we have analysed. OMA's current communicative images seem to suffer from the same universal homologation that affects many contemporary architects due to the dominating role of digital processed images. But somehow *Post-Occupancy* gathers the outcomes of a 25 years-long research for an analytical and composite envisioning system in which various representational models work together to offer a narrative (cinematographic?) explorative space into the design but always letting the reader the task of choosing his own way and producing an individual synthetic judgement. Moreover Koolhaas reports and uses those judgements as indirect envisioning tools that are able to testify uses and impressions in his buildings and to add a further fictional atmosphere on them. Such an informal envisioning system obviously constitutes a criticism toward the aesthetics of astonishing pictures and rigorously empty spaces, photo-realistic renderings and over-studied details and joints that seems to refuse the man as the main reason of their existence.

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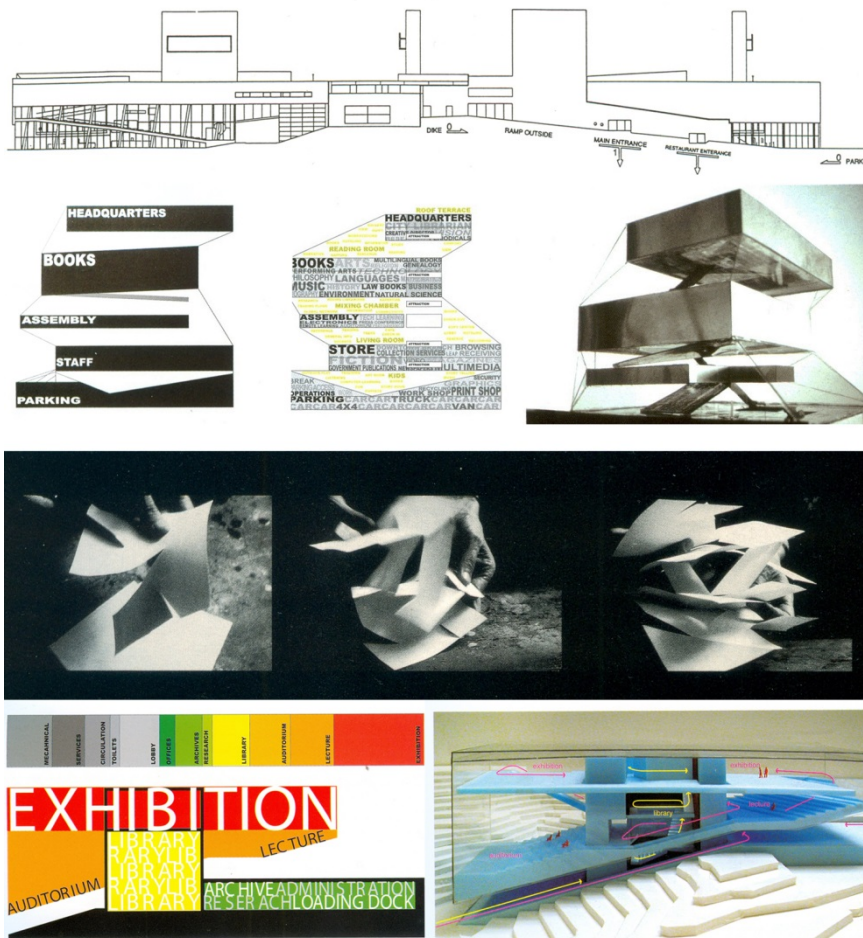Zaera Polo, A. (1992b). Encontrando libertades. *El Croquis*, (53), 6 – 31.

Fig. 2 Kunsthal, Rotterdam, 1992: developed elevation; Public Library, Seattle, 2004: diagrammatic poché and text sections and study model view; Jussieu Libraries, Paris, 1989: concept paper model; National University Museum, Seoul, 2005: diagrammatic text section and circulation model